Patent claims

- 1. Agent for gene-therapeutic prophylaxis and therapy of tumour diseases, entailing a
- vector in the sense of a gene transfer vehicle
- enhancer/promoter
- transgene

with at least one of the components stated being aimed at the impregnation of normal tissue.

- 2. Application of the agent according to Claim 1 for gene-therapeutic prophylaxis and therapy of tumour diseases, entailing a
- vector in the sense of a gene transfer vehicle
- enhancer/promoter
- transgene

with at least one of the components stated being aimed at the impregnation of normal tissue.

- 3. Application of a gene transfer vector entailing a transgene in operative connection with an enhancer/promoter for the production of an agent for the gene-therapeutic prophylaxis and therapy of tumour diseases by administration on normal tissue.
- 4. Method for the gene-therapeutic prophylaxis and therapy of tumour diseases wherein an agent entailing a
- vector in the sense of a gene transfer vehicle
- enhancer/promoter
- transgene

with at least one of the components stated being aimed at the impregnation of normal tissue, is administered to a subject requiring a prophylactic or therapeutic tumour treatment in such a way that the vector is essentially absorbed by normal cells.

- 5. Agent according to Claim 1 with a promoter and/or enhancer regulated by transcription factors active in normal tissue.
- 6. Agent according to Claim 5 containing the CMV promoter or the SV 40 promoter or the RSV promoter, or liver-specific promoters such as the albumin promoter or lung-specific promoters or brain tissue-specific promoters or bone-specific promoters or promoters active in potential metastatic target organs or organs of the genesis of primary tumours.
- 7. Agent according to Claim 5 containing an enhancer/promoter activated by addition of an applicable substance.

8. Agent according to Claims 5 und 7 which is a tetracyclin-dependent or a steroid hormone dependent promoter.

- 9. Agent according to Claim 1 containing transgenes for substances
- which limit the growth of the tumour
- destroy the tumour
- protect the normal tissue against tumour invasion.
- 10. Agent according to Claim 1 containing genes of metalloprotease inhibitors

11. Agent according to Claims 1 und-19 containing an anti-tumoral transgene coding for:

TIMP-1 or TIMP-2

12. Agent according to Claim 1 containing a protease-inhibitory transgene coding for: TIMP-3 or TIMP-4 or PAI-1 or PAI-2.

13. Agent according to Claim 11 or 12 containing a modified transgene, the antitumoral effect of which has been reinforced by this modification. 14. Agent according to Claim 13 which contains a relevant transgene C-terminal trunked TIMP-2.

15. Agent according to Claims 1, 2 or 3 containing a transgene of the extra-cellular matrix.

- 16. Agent according to Claim 15 containing at least two polypeptide chains of collagen or fibronectin or laminin or genes, products of which are responsible for the synthesis of non-protein components of the ECM.
- 17. Agent according to Claim 15 or 16 containing a transgene of the extra-cellular matrix modified in such a way that it is difficult to decompose or is decomposable.
- 18. Agent according to Claim 1 containing a transgene coding for an adhesion molecule.
- 19. Agent according to Claim 18 in which the adhesion molecule in question is claudin or occludin or a cadherin or an integrin or a gene from the immunoglobulin superfamily, a selectin or a muzin.
- 20. Agent for prophylaxis and treatment of tumour diseases containing an antitumoral transgene or sequences thereof which has been provided with a membrane anchor sequence.
- 21. Application of a gene transfer vector for production of an agent for prophylaxis and treatment of tumour diseases containing an anti-tumoral transgene or sequences thereof which has been provided with a membrane anchor sequence.
- 22. Method for prophylaxis and treatment of tumour diseases in which an antitumoral transgene or sequences thereof which has been provided with a membrane anchor sequence is transferred.

- 23. Agent according to Claim 20 containing a suicide gene or otherwise chemotherapeutically effective gene as the transgene in question
- 24. Agent according to Claim 23 in which the transgene in question is cytosin desaminase or active part sequences thereof or nitroreductase or active part sequences thereof.
- 25. Agent according to Claim 1 in which the vector is a virus.
- 26. Agent according to Claim 25 in which the virus is a first-generation adenovirus or an adeno-associated virus or a minimal adenovirus or an HSV or a lentivirus.
- 27. Agent according to Claim 26 in which the virus is a lentivirus/minimal adenovirus hybrid.
- 28. Agent according to Claim 27 in which the vector is a non-human mammal adenovirus.
- 29. Agent according to Claim 1 in which the vector is not a virus.
- 30. Agent according to Claim 29 in which the vector is a liposomal formulation or carrier proteins are used.
- 31. Agent according to Claims 25 and 29, in which the surface is modified in such a way that a specific gene transfer into the normal tissue is achieved.
- 32. Agent according to Claim 1 containing a minimal adenovirus and TIMP-2.
- 33. Agent according to Claim 1 containing a minimal adenovirus and C-terminal truncated TIMP-2.
- 34. Agent according to Claim 1 containing an AAV and TIMP-2

- 35. Agent according to Claim 1 containing a first-generation adenovirus and TIMP-2.
- 36. Agent according to Claim 1 containing a lentivirus/minimal adenovirus hybrid and TIMP-2.
- 37. Agent according to Claim 1 containing an AAV and C-terminal truncated TIMP-2.
- 38. Agent according to Claim 1 containing a minimal adenovirus and E-cadherin.
- 39. Agent according to Claim 1 containing an AAV and E-cadherin.
- 40. Agent according to Claim 1 containing a minimal adenovirus and at least two polypeptide chains of the collagen.
- 41. Agent according to Claim 1 for gene transfer into the hepatic tissue.
- 42. Agent according to Claim 1 for therapy and prophylaxis of liver metastases.
- 43. Agent according to Claim 1 for therapy of brain tumours.
- 44. Agent according to Claim 1 for therapy of lung metastases.
- 45. Agent according to Claim 1 containing the HNFAlbumin enhancer/promoter, AAV and TIMP-1.
- 46. Agent according to Claim 1 containing an enhancer/promoter, activated by a substance foreign to the body and containing at least two polypeptide chains of the collagen.
- 47. Agent according to Claim 1 containing a liver-specific promoter, an AAV and a metalloprotease inhibitor.

- 48. Agent according to Claim 1 containing a liver-specific promoter, a minimal adenovirus and a metalloprotease inhibitor.
- 49. Agent according to Claims 1 and 9 containing a liver-specific promoter and a minimal adenovirus.
- 50. Agent according to Claims 1 and 9 containing a liver-specific promoter and an AAV.
- 51. Agent according to Claims 1 and 9 containing a liver-specific promoter and a lentivirus/minimal adenovirus hybrid.

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